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(71) Applicant *(for all designated States except US)*: **TRIGEN LIMITED** [GB/GB]; 20 St James's Street, London SW1A 1ES (GB).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: **WANG, Shouming** [GB/GB]; Trigen Limited, Clareville House, 26/27 Oxendon Street, London SW1Y 4EL (GB).

(74) Agent: **HARRISON GODDARD FOOTE**; Belgrave Hall, Belgrave Street, Leeds LS2 8DD (GB).

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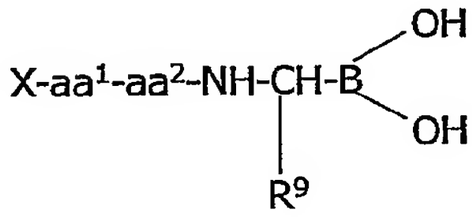
(54) Title: BORONIC ACID THROMBIN INHIBITORS



(I)

$-(CO)_a-(CH_2)_b-D_c-(CH_2)_d-E$ (A) $-(CO)_a-(CH_2)_b-D_c-C_e(E^1)(E^2)(E^3)$ (B)

(57) Abstract: A thrombin inhibitor selected from boronic acids of formula (I), and salts, prodrugs and prodrug salts thereof: wherein X is H (to form NH_2) or an amino-protecting group; aal is an amino acid residue having a side chain selected from formula (A) and (B)-$(CO)_a$-$(CH_2)_b$-D_c-(CH_2)d-E (A), -$(CO)_a$-$(CH_2)_b$-D_c-$C_e(E^1)(E^2)(E^3)$ wherein E^1, E^2 and E^3 ore 5-6 membered saturated or unsaturated hydrocarbyl rings, or one of E^1 , E^2 and E^3 is hydrogen and the other two are a said hydrocarbyl ring, E, E^1, E^2 and E^3 optionally being halogenated when saturated and mandatorily being halogenated when unsaturated, a particular halogen being fluorine; aa^2 is a residue of an amino acid which binds to the thrombin S2 subsite; and R^9 is a straight chain alkyl group interrupted by one or more ether linkages or R^9 is -(CH2)m W and W is -OH or halogen.